

### **Rejections under 35 U.S.C. § 112, Second Paragraph**

The Examiner rejected claims 1-3 and 6-10 as being indefinite under 35 U.S.C. § 112, Second Paragraph, arguing that the claims define the compound only by functional properties. Applicants respectfully disagree and submit that claims 1-3 and 6-10 instead define the compound by physical and/or chemical characteristics. For example, amended claim 1 defines the compound by an average major diameter and an aspect ratio. Both of these properties of the compound are physical, not functional, characteristics. Additionally, amended claim 3, for example, further defines the compound by an isoelectric point, which is a chemical characteristic. Accordingly, each of the claims cited by the Examiner particularly points out and distinctly claims the subject matter which Applicants regard as their invention by defining the compound in terms of physical and/or chemical characteristics. Therefore, Applicants respectfully request that this rejection be withdrawn.

The Examiner further rejected claims 1-3 and 6-10 under 35 U.S.C. § 112, Second Paragraph, because the term “flake-like  $\alpha$ -alumina particle” is vague and indefinite. As suggested by the Examiner, Applicants have amended claims 1-3 and 6-10 and replaced the above term with “flaky  $\alpha$ -alumina particle.” Accordingly, Applicants respectfully request that this rejection be withdrawn.

The Examiner further rejected claim 1 under 35 U.S.C. § 112, Second Paragraph, arguing that the term “thin flat form” rendered the claim indefinite. Applicants have amended claim 1 to remove this term, thereby obviating this rejection.

In addition, the Examiner rejected claim 2 under 35 U.S.C. § 112, Second Paragraph, as vague and indefinite. Specifically, the Examiner expressed confusion as

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to the phrases "oxide P<sub>2</sub>O<sub>5</sub>" and "in terms of." Applicants have amended claim 2, including removing the terms "oxide" and "in terms of," to more specifically indicate that the phosphoric compound formed from the source material is present in an amount of 0.2% to 5.0% by weight relative to the weight of the alumina particles, when the weight of the phosphoric compound used is converted to the weight of P<sub>2</sub>O<sub>5</sub>. With these amendments, Applicants respectfully request withdrawal of the rejection.

The Examiner rejected claims 8 and 10 under 35 U.S.C. § 112, Second Paragraph, as vague and indefinite, specifically arguing that the use of the word "compounded" is confusing. Applicants have amended claims 8 and 10 to replace "compounded" with "present" and therefore respectfully request withdrawal of this rejection.

No new matter has been added by any of the above amendments.

#### **Rejections under 35 U.S.C. § 103(a)**

The Examiner rejected claims 1 and 6-10 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,587,010 to Shibasaki et al. The Examiner asserted that Shibasaki et al. teaches a process for producing flaky alumina particles having a size of 1 μm or less and a thickness of 0.1 μm or less. Applicants respectfully traverse this rejection.

Claim 1 has been amended to more clearly define the invention. No new matter has been added. Amended claim 1 relates to flaky α-alumina particles having an average major diameter of 0.5 to 25 μm, an aspect ratio, expressed by particle major diameter / average thickness, of greater than 50 to 2000, and produced using a source

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material that will introduce phosphate ions. Shibasaki et al., on the other hand,  
discloses particles having a maximum average major diameter of no more than 3.5 µm  
(see FIG. 1). In addition, Shibasaki et al. neither teaches nor suggests the use of a  
source material that will introduce phosphate ions. Under *In re Royka*, 490 F.2d 981  
(CCPA 1971), to establish a *prima facie* case of obviousness, the Examiner must prove  
that all claim limitations of the claimed invention are taught or suggested by the prior art.  
See MPEP § 2143.03. Because Shibasaki et al. does not teach or suggest the use of  
phosphate ions as stated in amended claim 1, Applicants respectfully request that this  
rejection be withdrawn.

Claim 9 is directed to a cosmetic containing flaky  $\alpha$ -alumina particles of a stated thickness and average particle diameter. Shibasaki et al. neither teaches nor suggests the use of alumina particles in cosmetics. As discussed in the specification of the present application, the claimed cosmetic exhibits advantageous properties, including suitable gloss and luster, because of the use of alumina particles having the claimed characteristics (see paragraphs 0001, 0005, and 0010). In addition, Example 5 reveals the unexpected results of the use of the claimed alumina particles in cosmetics.

Because Shibasaki et al. does not teach or suggest the use of alumina particles in cosmetics, it would not have been obvious to one skilled in the art to use the claimed particles to achieve these advantageous properties in cosmetics. Therefore, Applicant respectfully submits that Shibasaki et al. does not render claims 9 and 10 obvious and respectfully requests the Examiner withdraw the § 103(a) rejection over Shibasaki et al.

The Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) as being obvious over Shibasaki et al. in view of U.S. Patent No. 6,197,277 to Fukuda et al. Noting that

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Shibasaki et al. lacks disclosure of P<sub>2</sub>O<sub>5</sub> and zeta-potential, the Examiner cites Fukuda et al. for these claimed attributes. Applicant has previously discussed that Shibasaki et al. does not teach or suggest  $\alpha$ -alumina particles having an average major diameter of 0.5 to 25  $\mu$ m, an aspect ratio, expressed by particle major diameter / average thickness, of greater than 50 to 2000, and produced using a source material that will introduce phosphate ions. Fukuda et al. does not remedy this deficiency, as it discloses an aspect ratio of only 15 to 50 (see abstract and claim 1). Under *In re Royka*, 490 F.2d 981 (CCPA 1971), to establish a *prima facie* case of obviousness, the Examiner must prove that all claim limitations of the claimed invention are taught or suggested by the prior art. See MPEP § 2143.03. Since the combination of Shibasaki et al. and Fukuda et al. does not teach or suggest the aspect ratio disclosed in claim 1, the claims of the present invention are not rendered obvious and withdrawal of this rejection is respectfully requested.

The Examiner stated that the data submitted in the present application on pages 15-25 merely demonstrates the effectiveness of adding P<sub>2</sub>O<sub>5</sub> to alumina particles, and that these results were expected based on the cited prior art. However, based on the arguments above, Applicants submit that the data on pages 15-25 clearly indicates the unexpected results in achieving  $\alpha$ -alumina particles having an aspect ratio, expressed by particle major diameter / average thickness, of greater than 50-to-2000, by using the processes described.

The motivation to modify the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. See *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984) ("The mere

fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification."); accord *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989); *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); see also *In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990). Because the Examiner has not identified any suggestion or motivation, within Shibasaki et al., Fukuda et al., or otherwise, to modify the teachings of the prior art to attain the Applicants' invention, the rejection of claims 1 and 6-10 under 35 U.S.C. § 103(a) should be withdrawn.

### Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and the continued examination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: December 16, 2002

By:   
Barry D. Biddle  
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**APPENDIX TO AMENDMENT OF DECEMBER 13, 2002**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**AMENDMENTS TO THE CLAIMS**

1. [Flake-like] Flaky  $\alpha$ -alumina particles having an average major diameter of 0.5 to 25  $\mu\text{m}$ , [and] an aspect ratio, expressed by particle major diameter / average thickness, of greater than 50 to 2000 and [having a thin flat form], and produced using a source material that will introduce phosphate ions.
2. The [flake-like] flaky  $\alpha$ -alumina particles according to claim 1, wherein a phosphoric compound is present in an amount of 0.2% to 5.0% by weight[, in terms of oxide  $\text{P}_2\text{O}_5$ ,] relative to the weight of the alumina particles, and the weight of said compound used in the calculation is the weight of  $\text{P}_2\text{O}_5$ .
3. The [flake-like] flaky  $\alpha$ -alumina particles according to claim 1, wherein an isoelectric point of the alumina particles at which zeta-potential is 0 is at a pH of 4 to 8.
6. A cosmetic containing [flake-like] flaky  $\alpha$ -alumina particles [according to claim 1] having an average major diameter of 0.5 to 25  $\mu\text{m}$  and an aspect ratio, expressed by particle major diameter / average thickness, of greater than 50 to 2000.
7. The cosmetic according to claim 6, in which the [flake-like] flaky  $\alpha$ -alumina particles have an average thickness of 0.01 to 0.1  $\mu\text{m}$  and an average particle diameter, in terms of half the sum of particle diameter in major axis and particle diameter in minor axis, of 0.5 to 15  $\mu\text{m}$ .

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8. The cosmetic according to [Claim] claim 6, wherein the [flake-like] flaky  $\alpha$ -alumina particles are [compounded] present in an amount of 1% to 90% by weight, based on the weight of the cosmetic.
9. A cosmetic containing [flake-like] flaky  $\alpha$ -alumina particles having an average thickness of 0.01 to 0.1  $\mu\text{m}$  and an average particle diameter, in terms of half the sum of particle diameter in major axis and particle diameter in minor axis, of 0.5 to 15  $\mu\text{m}$ .
10. The cosmetic according to [Claim] claim 9, wherein the [flake-like] flaky  $\alpha$ -alumina particles are [compounded] present in an amount of 1% to 90% by weight, based on the weight of the cosmetic.

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